

CLAIMS

1. Crosslinkable silicone composition useful especially as a varnish which in particular has anti-friction properties, said composition being of the type comprising on the one hand at least two organosilicon species A and B which react with one another in the presence of a catalyst C to allow crosslinking, at least one of these two species consisting of a polyorganosiloxane (POS), and on the other hand at least one particulate component D, characterized in that:
- this composition is of the type crosslinkable by polyaddition;
 - the particulate component D is selected from the group comprising powdered (co)polyamides - preferably (co)polyamides 6, 12 and 6/12 - defined as follows:
 - the particles are of substantially rounded shape, and
 - the mean particle diameter Φ_{md} is between 0.1 and 200 μm , preferably between 5 and 100 μm and particularly preferably between 10 and 50 μm ;
 - it also contains at least one other particulate component E selected from the group comprising powdered silicas having a mean particle diameter Φ_{md} of about 0.1 μm or less, and a BET specific surface area greater than 50 m^2/g , preferably of between 50 and 400 m^2/g and especially of between 150 and 350 m^2/g .
2. Composition according to claim 1, characterized in that the particulate component D is present in an amount of 0.1 to 20% w/w, based on the total weight of the composition.
3. Composition according to claim 1 or 2, characterized in that the particulate component E is present in an amount of 0.001 to 5% w/w, based on the total weight of the composition.
4. Composition according to any one of claims 1 to 3, characterized in that it comprises:
- (A) 100 parts by weight of at least one polyorganosiloxane (POS) having at least two alkenyl groups, preferably $\text{C}_2\text{-C}_6$ alkenyl groups, bonded to the silicon in each molecule;
 - (B) 1 to 50 parts by weight of at least one polyorganosiloxane having at least three hydrogen atoms bonded to the silicon in each molecule;
 - (C) 0.001 to 1 part by weight of at least one catalyst preferably composed of at least one metal belonging to the platinum group;
 - (D) 0.1 to 20 parts by weight of at least one particulate component consisting of

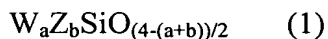
(co)polyamide;

- (E) 0.001 to 5 parts by weight of at least one siliceous particulate component;
- (F) 0 to 30 parts by weight of at least one adhesion promoter;
- (G) 0 to 1 part by weight of at least one crosslinking inhibitor;
- (H) 0 to 10 parts by weight of at least one polyorganosiloxane resin;
- (I) optionally at least one functional additive for imparting specific properties.

5. Composition according to any one of claims 1 to 4, characterized in that the dynamic viscosity η (mPa.s at 25°C) of its silicone phase, consisting of the POS A and B and optionally the components H or I, is such that:

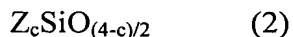
preferably $200 \leq \eta \leq 3000$,
and particularly preferably $300 \leq \eta \leq 2000$,
 $400 \leq \eta \leq 900$.

6. Composition according to any one of claims 1 to 5, characterized in that the one or more POS A and the optional resins H have siloxy units of the formula



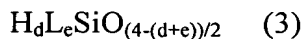
in which:

- the symbols W, which are identical or different, are each an alkenyl group and preferably a C₂-C₆ alkenyl;
- the symbols Z, which are identical or different, are each a non-hydrolyzable monovalent hydrocarbon group that is devoid of an unfavorable action on the activity of the catalyst, is optionally halogenated and is preferably selected from alkyl groups having from 1 to 8 carbon atoms inclusive, and from aryl groups;
- a is 1 or 2, b is 0, 1 or 2 and a + b is between 1 and 3;
- optionally at least some of the other units are units of the empirical formula



in which Z is as defined above and c has a value of between 0 and 3.

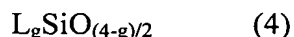
7. Composition according to any one of claims 1 to 6, characterized in that the one or more POS B have siloxy units of the formula



in which:

- the symbols L, which are identical or different, are each a non-hydrolyzable monovalent hydrocarbon group that is devoid of an unfavorable action on the activity of the catalyst, is optionally halogenated and is preferably selected from alkyl groups having from 1 to 8 carbon atoms inclusive, and from aryl groups;
- d is 1 or 2, e is 0, 1 or 2 and d + e has a value of between 1 and 3;

- optionally at least some of the other units being units of the empirical formula



in which L is as defined above and g has a value of between 0 and 3.

- 5 8. Composition according to any one of claims 1 to 7, characterized in that the alkenyl groups W of the POS A and the optional POS resins H are vinyl groups Vi carried by siloxy units D and optionally M and/or T.
9. Varnishing process, characterized in that the composition according to any one of
- 10 claims 1 to 8 is applied, as an anti-friction varnish, to a substrate optionally coated with at least one layer of silicone elastomer.
10. Process according to claim 9, characterized in that it consists essentially in:
 - coating the substrate with the composition according to any one of claims 1 to
 - 15 8,
 - crosslinking the layer of varnish, optionally with thermal activation,
 - and optionally repeating the above steps at least once.
11. Process according to claim 9 or 10, characterized in that the varnish composition is
- 20 applied to the substrate at a coating rate less than or equal to 25 g/m² and preferably of between 5 and 20 g/m².
12. Composite obtainable by the process according to any one of claims 9 to 11, characterized in that it comprises:
 - 25 - a substrate,
 - optionally a coating firmly fixed to at least one side of the substrate and consisting of at least one layer of silicone elastomer,
 - at least one layer of varnish based on the composition according to any one of claims 1 to 8.
- 30 13. Composite according to claim 12, characterized in that the substrate is a flexible substrate preferably selected from the group comprising:
 - textiles,
 - non-woven fibrous substrates,
 - 35 - polymer films, particularly polyester and polyamide.
14. Manufactured article, characterized in that it contains composite according to claim 12 or 13.